This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1-12 (Canceled).

Claim 13 (Currently Amended): A method for augmented reality guided instrument positioning, comprising the steps of:

rendering at least one graphics path guide for indicating a path for a real instrument to follow to a target, the graphics path guide being constructed in a way that it frames the path so as not to obstruct a view of a central part of the real instrument if the real instrument is in correct alignment to said path;

displaying the rendered at least one graphics path guide on a ~~stereo~~ display overlaid onto a view that contains said real instrument and a real object, which includes said target;

moving said real instrument by a user in response to viewing the displayed at least one graphic path guide on a display overlaid onto a view that contains said real instrument and a real object, which includes said target to align it with the at least one graphics path guide,

aligning the real instrument with the path by determining when the at least one graphics path guide frames the path so that a view of a central part of the real instrument is not obstructed by the at least one graphics path guide and

moving said real instrument along the path so that a front portion of said real instrument is inserted into the object until its tip reaches said target

Claim 14 (Canceled).

Claim 15 (Canceled).

Claim 16 (Currently Amended): A method for augmented reality guided instrument positioning, comprising the steps of:

defining a point on an actual target;

defining an actual path to reach the point on the actual target;

rendering a graphical representation of the actual target point and the actual path in the form of a graphical target point and at least one graphical axis marker on a display overlaid onto a view that contains said real instrument and a real object, which includes said target, respectively, the graphical representation being rendered with respect to a user's augmented reality viewpoint, wherein the augmented reality view combines a view of an actual scene with said graphical representation and the augmented reality line of sight to the graphical target point coincides with the actual path that the actual instrument needs to be aligned to during a positioning of the actual instrument to the actual target point; and

aligning the actual instrument to the actual path by aligning it to the augmented reality line of sight towards the graphical target point, and moving the actual instrument by a user in response to viewing the rendered graphical representation on a display overlaid onto a view that contains said real instrument and a real object, which includes said target along the actual path towards the actual target point while keeping it aligned with the augmented reality line of sight.

Claim 17 (Previously Presented): The method according to claim 16, further comprising the step of designing the actual instrument to include at least one physical axis marker for alignment with said at least one graphical axis marker.

Claim 18 (Previously Presented): The method according to claim 16, further comprising the step of adding at least one physical axis marker to a structure of the actual instrument for alignment with said at least one graphical axis marker.

Claim 19 (Previously Presented): The method according to claim 16, whereby a user makes the augmented reality line of sight coincide with the actual path by moving into a position where said graphical target point and said at least one graphical axis marker line up.

Claim 20 (Previously Presented): The method according to claim 16, wherein the at least one identified graphical axis marker has a circular shape, and is centered on the axis of the actual path.

Claim 21 (Previously Presented): The method according to claim 16, wherein the at least one identified graphical axis marker is a cross comprised of an intersection of at least two lines, the intersection to be centered on the axis of the actual instrument for correct alignment.

Claim 22 (Previously Presented): The method according to claim 16, wherein the at least one identified graphical axis marker comprises at least two axis markers for controlling alignment of the actual instrument along a line of sight.

Claim 23 (Currently Amended): A method for virtual reality guided instrument positioning, comprising the steps of:

defining a point on an actual target;

defining an actual path to reach the point on the actual target;

tracking a pose of an actual instrument with respect to a pose of the actual target;

rendering a graphical representation of the actual instrument and the actual target point to obtain a virtual instrument and a virtual target point on a display overlaid onto a view that contains said real instrument and a real object,

which includes said target, respectively, the graphical representation being rendered with respect to a virtual viewpoint from which a virtual line of sight to the virtual target point coincides with a virtual path for the virtual instrument to follow during a positioning of the actual instrument to the point on the actual target, the virtual path corresponding to the actual path, the virtual instrument comprising a 3D structure for line of sight alignment, the 3D structure comprising a plurality of markers centered on and distributed along an axis of the virtual instrument;

displaying the rendered virtual instrument and virtual target point

aligning the virtual instrument along the virtual line of sight to the virtual target point in order to accordingly align the actual instrument along the actual path; and

moving the actual instrument by a user in response to viewing the rendered graphical representation of the actual target point and the actual path in the form of a graphical target point and at least one graphical axis marker on a display along with the view of an actual scene along the actual path towards the actual target keeping the correct alignment by observing and keeping the alignment of virtual instrument and virtual path.

Claim 24 (Canceled).

Claim 25 (Original): The method of claim 23, wherein the virtual target point has a circular shape.

Claim 26 (Original): The method of claim 25, wherein the circular shape is a ring.

Claim 27-28 (Canceled).

Claim 29 (Previously Presented): The method of claim 23, wherein said plurality of markers comprise at least two rings, centered on an axis of the virtual instrument.

Claim 30 (Original): The method of claim 29, wherein the at least two rings have different diameters.

Claim 31 (Previously Presented): The method of claim 23, wherein the step of aligning the virtual instrument further comprises the step of choosing an orientation of the graphical representation around the virtual line of sight according to a pose of a user with respect to the actual target.

Claim 32 (Original): The method of claim 31, further comprising the step of determining the orientation such that east, west, north, and south correspond to right, left, forward, and backward, respectively, for the pose of the user in which the user faces the actual target, said determining step based on a selection.

Claim 33 (Original): The method of claim 31, wherein the orientation is dynamically adjusted according to a change of the pose of the user.

Claim 34 (Original): The method of claim 32, wherein the selection is dynamically adjusted with respect to the pose of the user.

Claim 35 (Previously Presented): The method of claim 23 wherein the rendering step further comprises the step of rendering graphical information about a distance between the actual instrument and the point on the actual target, the

graphical information about the distance being overlaid onto the graphical representation.

Claim 36 (Canceled).

Claim 37 (Previously Presented): The method of claim 23 wherein the virtual target point and the virtual instrument are designed such that information corresponding to the distance between the actual instrument and the point on the actual target can be directly observed from an alignment of the virtual target point and the virtual instrument.

Claim 38 (Original): The method of claim 35, wherein said rendering step is performed according to a virtual camera with a wide angle lens.

Claim 39 (Previously Presented): The method of claim 37, wherein the virtual target point and the virtual instrument are each comprised of at least one ring centered on the target point respectively on the axis of the instrument, and a diameter of the at least one ring is dimensioned to achieve a pre-defined configuration together with the actual instrument when the actual instrument reaches the actual target.

Claim 40 (Original): The method of claim 23, wherein the graphical representation from the virtual viewpoint is combined with another graphical representation from another virtual viewpoint looking at the virtual path from a side thereof.

Claim 41 (Original): The method of claim 23, wherein said graphical representation from the virtual viewpoint is combined with an augmented reality view.

Claim 42 (Previously Presented): The method of claim 16 wherein the graphical target point and the graphical axis marker are designed such that information corresponding to the distance between the actual instrument and the point on the actual target can be directly observed from an alignment of the graphical target point and the graphical axis marker.

Claim 43 (Previously Presented): The method of claim 42, wherein the graphical target point and the graphical axis marker are each comprised of at least one ring centered on the target point respectively on the axis of the instrument, and a diameter of the at least one ring is dimensioned to achieve a pre-defined configuration together with the actual instrument when the actual instrument reaches the actual target.